Compliance Component

DEFINITION

Name	Router
Description	A router is a network appliance that makes a choice based on the network layer of the OSI Model to forward packets from one network to another. This choice is based on a routing table to forward packets to the next hop for a destination network. Routing tables can be populated through dynamic or static entries. The term "Router" is derived from this routing table. Routers can also be used to filter traffic through access-lists, provide quality of service, bridge networks, provide switching functions, and enforce policy mapping.
Rationale	Routers provide the basic connectivity for internetworking, by allowing different networks to communicate. Routers select the correct interface and next hop for the packet being forwarded. Routers can provide multiple redundant active paths to a destination network.
Benefits	Routers help clear up network congestion, segment networks, provide network connectivity, increase functionality, provide filtering, enforce quality of service, provide policy mapping, and allow for multiple redundant paths to a destination.

ASSOCIATED ARCHITECTURE LEVELS

Specify the Domain Name	Infrastructure
Specify the Discipline Name	Network
Specify the Technology Area Name	Network Hardware
Specify the Product Component Name	Cisco Routers

COMPLIANCE COMPONENT TYPE

Document the Compliance Component Type	Guideline *(Currently the State standard)*
Component Sub-type	

COMPLIANCE DETAIL

State the Guideline, Standard or Legislation	Routers must have the following characteristics: • Two or more *logical* interfaces • One or more *physical* interfaces • Have an operating system • Have an interface to facilitate management (e.g., Console Port) • Be capable of using access lists to filter • Be capable of forwarding traffic using TCP/IP and UDP • Support the following Routing Protocols: Routing Information Protocol (RIP) and Open Shortest Path First (OSPF) • Support the Simple Network Management Protocol (SNMP) • Support dynamic and static routing updates • Support image upgrades

	Routers may have these additional features: • Support HTTP configuration • Support additional feature sets for a variety of applications according to business needs (e.g., IPX/SPX, AppleTalk, DecNet, Border Gateway Protocol (BGP)) • Support bridging functions (e.g., Source Route or Translational Bridging) • Support Policy Routing • Support Quality of Service (QOS)
Document Source Reference #	IETF RFC 1812, 1716, 793, 791, and 768

Compliance Sources

Name	Internet Engineering Task Force	*Website*	www.ietf.org
Contact Information	*ietf-info@ietf.org*		

KEYWORDS

List Keywords	Router, Routing, Routing Table, Forwarding, Network Layer, OSI Model, filtering, access-lists, policy routing, RIP, IGRP, EIGRP, OSPF, BGP, SNMP, Bridging, TCP/IP, UDP

COMPONENT CLASSIFICATION

Provide the Classification	☐ *Emerging*	☒ *Current*	☐ *Twilight*	☐ *Sunset*
Sunset Date				

COMPONENT SUB–CLASSIFICATION

Sub-Classification	**Date**	**Additional Sub-Classification Information**
☐ *Technology Watch*		
☐ *Variance*		
☐ *Conditional Use*		

Rationale for Component Classification

Document the Rationale for Component Classification	

Migration Strategy

Document the Migration Strategy	

Impact Position Statement

Document the Position Statement on Impact	

CURRENT STATUS

Provide the Current Status	☐ *In Development*	☐ *Under Review*	☒ *Approved*	☐ *Rejected*

AUDIT TRAIL

Creation Date	3-24-2004	*Date Approved / Rejected*	4/13/04

Reason for Rejection			
Last Date Reviewed		*Last Date Updated*	
Reason for Update			